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INTERVENING FATIGUE PROGRAM ON FATIGUE, SELF-ESTEEM, BODY IMAGE, LIFE QUALITY ON BREAST CANCER SURVIVORS

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ABSTRACT

The incidence of breast cancer in Indonesia is the highest among other cancers in women, with an estimated prevalence of fatigue between 25-99%. The current study is a 6-week mixed methods action study on fatigue in breast cancer patients. This study aimed to develop a self-management intervention program to reduce empowerment-based fatigue with telenursing strategies and to seek evidence of its effect on fatigue levels, self-esteem, body image, and quality of life. The first stage describes the problem with a qualitative method by exploring the fatigue problem in the survivor's perception. The second stage is the intervention development stage, and the third stage is testing the effectiveness of the intervention, carried out in a quasi-experimental study with a pre-posttest control group design. The first stage produces five themes, and the second stage produces nursing interventions based on transitional nursing theory and telenursing strategies. The third stage of the study proved that the fatigue management intervention (IPK) effectively reduced fatigue levels, increased self-esteem and body image, and improved the quality of life in breast cancer patients. This study recommends oncology nurses consider empowering survivors using this intervention so that the transition period for breast cancer survivors achieves healthy physical and psychological health, achieving optimal health after a cancer diagnosis.

INTRODUCTION

The incidence of cancer in Indonesia (136.2/100,000 population) is 8th in Southeast Asia, while in Asia, it is 23rd. The highest incidence rate in Indonesia for men is lung cancer at 19.4 per 100,000 population, with an average death rate of 10.9 per 100,000 population, followed by liver cancer at 12.4 per 100,000 population with an average death rate of 7.6 per 100,000 population. Meanwhile, the highest incidence rate for women is breast cancer, which is 42.1 per 100,000 population with an average death rate of 17 per 100,000 population, followed by cervical cancer of 23.4 per 100,000 population with an average death rate of 13.9 per 100,000 population (Cancer Incidence and Mortality Statistics Worldwide and by Region, 2018). Fatigue is considered the primary symptom (Mishra et al., 2014). For cancer patients, fatigue is a subjective state whose description is so broad that patients may describe fatigue as feeling tired, weak, tired, lazy, heavy, sluggish, or having no energy (Manir et al., 2012). Compared to pain, fatigue is a symptom that more often causes distress (Yeo & Cannaday, 2015).

As many as 26-65% of survivors indicate that when tired, they are precisely advised to increase the amount and quality of rest and perform other sedentary activities (Hilarius et al., 2011). Generally, the level of physical activity among breast cancer survivors is low, and many women deliberately decrease their physical activity after diagnosis (Irwin et al., 2003; Lahart et al., 2014). Facing a long continuum of cancer treatment and dealing with the fatigue and its

consequences in everyday life, survivors desperately need the skills to reduce fatigue by taking action to avoid its continued adverse effects on physical and psychological health. To achieve that, survivors need a new approach through a different paradigm, namely through partnership relationships with health workers, which make them empowered individuals able to cope with fatigue independently outside the institution of care. Therefore, researchers feel the need for intervention through efforts to make survivors more empowered in managing the problem of fatigue, they think.

METHOD

The data collection process begins with the preparation stage by contacting the hospital for permission. After permission was obtained, the researcher was assisted by the head of the room and the nurse in charge of finding potential participants in the chemotherapy room and then fostering mutual trust as a basis for professional relationships. Prospective respondents explained the study, and the researcher offered informed consent after agreeing.

Interviews are conducted during therapy. Starting with first preparing recording aids, notebooks, stationery, and interview guides, it also explains the purpose of using recording tools and asks prospective respondents for permission. The place where the interview is conducted is in bed during therapy. The environment is comfortable in the respondent's senses, well-lit, and not noisy. The interview guideline guided interview contains pre-made questions. At the end of the interview, the researcher summarizes the results based on the objectives.

Furthermore, the design of interventions is carried out whose preparation is carried out through consultation with supervisors and experts related to the interventions to be carried out by survivors (medical rehabilitation experts, clinical psychologists, and certified yoga instructors). Supporting components of the intervention include yoga movement videos, modules containing photos and step-by-step images of exercising on a mattress or seat, daily notebooks containing encouragement to express feelings, and guidelines for nurses to support and improve activities—physical and psychological survivors. The intervention is accompanied by measurement instruments tested for validity and reliability before being used in research. Expert consultations are carried out to gather inputs to improve the interventions compiled, namely nursing interventions to empower breast cancer survivors to manage their fatigue.

This research is action research through a non-randomized pre-test and post-test design approach with the control group. The target population is all breast cancer survivors. In contrast, the affordable population is breast cancer survivors at RSK Dharmais Jakarta who have undergone surgery and are in chemotherapy following the inclusion criteria with a total of 55 people each based on the calculation of the number of samples carried out during the preparation period. Participating samples were taken by consecutive sampling.

The participant criteria were breast cancer survivors at all stages who had undergone surgery at least two months earlier, experienced fatigue, underwent chemotherapy, and were still undergoing therapy in the subsequent three cycles to experience fatigue's effects. Participants were those who did not experience metastasis to the bones that made it difficult for them to move with

a set age of fewer than 60 years, currently living a sedentary lifestyle, speak and read Indonesian, are willing to be contacted by phone, and signed informed consent. Meanwhile, participants would be expelled if they experienced physical difficulties caused by other comorbidities, for example, heart failure and osteoporosis, symptoms of pain, short breath, difficulty moving so that they could not carry out physical activities, cannot be contacted by phone and did not meet the minimum empowerment activities, which is two times. To maintain and ensure that each participant gets the exact minimum amount of empowerment, the researcher determined that if, within 2x24 hours after the set schedule, the survivor could not be contacted, then for that week, the empowerment intervention was considered not given. If this happened twice, the participant was supposed to drop out.

Research Instruments

Quality of life was measured using the EORTC QLQ30 questionnaire, which is a questionnaire that precisely measures the quality of life of cancer patients. The questionnaire was cancer-specific, with 30 questions measuring various aspects of quality of life. They were classified into 15 dimensions, including five functional subscales (physical, role, emotional, cognitive, and social), three symptom subscales (fatigue, pain, and nausea or vomiting), one general health or health subscale, and six single items that address the various symptoms and financial impacts felt by the patient. The EORTC QLQ C-30 questionnaire is a reliable and valid measuring tool for assessing the quality of life of cancer patients (Adli, 2016).

Self-esteem is measured using the Rosenberg self-esteem scale. This scale has ten items with a Likert scale with values of 0 (strongly disagree) to 3 (strongly agree once). The higher the score indicates, the higher the confidence. Body image was measured using the Body Image Scale by Hopwood, which consists of a 10-item scale that assesses the subject's evaluation of sexual attractiveness, weight issues, and physical condition. A higher score indicates higher self-esteem. The measurement uses an instrument widely used in research on breast cancer survivors for fatigue variables, the Piper Fatigue Scale. Each item is graded on a scale of 1-10, with a higher score indicating more severe fatigue or more disruption to life. The Fatigue-Piper-Revised Scale (PFS-R) is a 12-item scale, scaling numbers 0–10, with four dimensions of fatigue: behavior/severity, affective, sensory, and cognitive/mood meanings.

Because it uses more than one data collector, a Kappa test has been carried out to ensure the consistency of measurements from the assessors (Raters). The result of this test is the Kappa value for the average quality of life variable of 0.999 with an asymp. std error of 0.06 to 0.08 and sig of <0.05. For the self-esteem variable, the average value is 0.23-0.35 with a sig of <0.05, which means there is consistency between the two enumerators. For fatigue variables, kappa values range from -0.186 to -0.219, asymp std error values range from 0.064-0.079, and sig<0.05. For body image variables, Kappa value -0.243 to -0.321, asymp std error averaged 0.13 and sig<0.05. The asymp. std. error value indicates a standardized measurement error. The smaller the magnitude of this coefficient, the more reliable the resulting measurement results will be.

After that, the intervention group was given education about breast cancer, fatigue in cancer, and efforts that can be made to reduce it. It is to increase participants' knowledge and motivation to do yoga. Participants were also shown a video of yoga body exercises which are yoga exercises that emphasize breathing and stretching. Yoga in this intervention is set at a low impact level throughout the intervention period for 5 (five) weeks. This step-by-step yoga has been depicted in photos and videos given to participants. To ensure that participants do yoga and write in the workbook given to each participant, there is a section where participants write self-reports on their activities. The participant is taught how to fill it out, what to fill in and what description he must report to fill it out.

Against this group, researchers used the media of booklets to provide education, information, and videos to show yoga movements. It informs yoga regarding movement and movement limits, breathing activity, and frequency required by each movement. To adjust the exercise individually and make it effective, the researchers taught each participant an individual concept: the intensity of performing movements is limited to their ability and is not forced. Each participant was given a videotape on each mobile phone they owned for easy personal access and a module containing the yoga movements in a step-by-step photo with detailed instructions on how to use them, as well as notes to express feelings to take home.

Only subjects in the intervention group received GPAs. The research team empowered participants to meet fatigue control and self-management needs and utilize existing facilities or equipment. GPA is in the form of weekly phone calls to strengthen self-efficacy, confirming exercise intensity and adherence to the program. During the 5-week intervention, researchers and the team made weekly phone calls to participants in the participant group to strengthen their motivation and compliance with the yoga program and to solve any potential difficulties and discomforts that might occur during the exercise. Researchers asked participants to answer the measurement instrument again by phone at the end of week six as a post-test value.

The control group only measured the pre-test value, was given a large brown envelope that was taken home containing the research instrument, and in the 6th week, was measured again by phone as the post-test value. After that, the control group gained a GPA at the end of week 6 after all intervention group participants measured post-test scores.

Data Processing and Analysis

The data analysis techniques used were univariate and bivariate tests using SPSS ver.23 software with the following stages:

1) Univariate analysis was carried out to see an overview of the characteristics of the participants presented in the form of a table. Categorical data are analyzed using proportions or percentages that include education level, type of surgery, marital status, type of work, stage of cancer, and length of time since diagnosis. Meanwhile, age data, which is numerical data, is analyzed using mean and median values. It aimed to see the characteristics and differences of respondents both in the intervention and control groups, which is presented in a table. To assess the homogeneity of data from 2 groups of research

data between the intervention and control groups by using the Chi-Square test for categorical data and the Anova test (Levene's test) for numerical data.

2) Bivariate analysis was used to determine the equality between the two research groups, the normality of the data, and differences and changes in the average value of the intervention and control groups. Equivalence analysis before the intervention of intervention and control group models was carried out. Using the Mann-Whitney test analysis, find the mean difference between the two groups. Meanwhile, using the Wilcoxon sign-rank test analysis to find out the difference in the average measurement before and after GPA.

RESULT AND DISCUSSION

Stage 1

Respondents in this study consisted of eight people, with the median age being 43.25 years, 95% believed to be in the age range of 39.16 years and 47.34 years, with a minimum age of 37 years and a maximum of 52 years. The majority have a high school education background (75%), have a job as a housewife (50%), and were diagnosed with breast cancer less than three years ago (50%). All respondents were at stage 3 when a breast cancer diagnosis was given. This stage resulted in five themes derived from open-ended questions about fatigue that include: the subjectivity of forms of fatigue, the impact of fatigue on the lives of survivors and loved ones, essential efforts to reduce fatigue, the reinforcement and support survivors receive, and the plans survivors will undertake to relieve fatigue. Although discussed separately, the themes are interrelated to explain the essence of the respondents' experiences in this study.

The themes are **Theme 1: Various forms of my fatigue**. This theme is formed from two subthemes, namely: (a) physical fatigue and (b) psychological fatigue. Fatigue is formed due to disease processes and side effects of cancer treatment. Many of them have had similar experiences with forms of fatigue. Most complain about how fatigue physically forms in various descriptions in unequal fatigue complaints. **Theme 2: Fatigue changes everything.** This theme arose based on participants' expressions when asked how they viewed the changes that fatigue brings to their lives, including various changes compared to life before exhaustion. Quite extensive and significant changes gave rise to desperate disillusionment. Four sub-themes are formed from the categories in this analysis, namely (a) changes in body image, (b) changes in self-esteem, (c) social changes, and (d) changes in roles and responsibilities.

Theme 3: The way I chose. The participants' experience in dealing with the problem of fatigue is shown by various attempts to relieve it, both physically and psychologically. When asked about what to do when fatigue comes, an expression arises about some effort, a combination of sitting, lying down, or adjusting energy. This theme is formed from two sub-themes, namely: (a) physical completion and (b) psychological completion. **Theme 4: Response of those around me.** Participants directly referred to the "husband" response when asked how the closest person's support for the participant was in response to his fatigue. The following scheme describes the results of the theme analysis. Most participants responded that support was provided by the husband in the form of direct assistance to the wife's responsibilities at home, namely in terms of

cooking, tidying up the house or cleaning the house, or providing motivation. It includes the husband's worried response that arises in anger. Anxiety, worry, and lack of communication about the treatment results are unsatisfactory, so the response that comes to the fore is anger. **Theme 5: I'm still hoping.** The participant said he hoped to deal with fatigue when asked questions about things he hadn't done or had from others when facing fatigue. She placed these hopes on herself and her husband or those closest to her in the face of fatigue. The involvement of the closest person is often the survivor's hope that they will be willing to encourage and understand the survivor's situation. There is a desire on the part of the survivor for the person who cares for him to act, which helps him feel better. He has certain minimal expectations that will help him feel better. Hope for himself is a survivor's desire that he has not been able to fulfill or will do in the future, one of which is by doing somewhat relaxed sports or even increasing rest.

The picture and impact of overall fatigue, the efforts made, the support of the closest people, and the expectations of survivors became the main points of the thematic analysis. Various literature supports the fact that the cancer process and the response to treatment cause different complaints. Fatigue interferes with daily activities and causes complaints such as decreased appearance and performance, inability to maintain a routine, inability to restore energy even after sleep, increased desire and need to rest, lack of energy, and inability to maintain the usual level of physical activity, also feeling lazy and not passionate about anything.

In dealing with and living with cancer, many patients demonstrate a formidable ability to respond to stress and daily challenges. It can be seen from the respondents' expressions that when they do not feel tired, they are committed to doing activities that can be done, and vice versa. When they are exhausted, many things appear that are affected and make them sad. According to studies by Costanzo, several forms of stress that occur with high frequency over a long period can significantly impact mood and physical symptoms (Costanzo et al., 2012).

In the second theme, there were findings about changes in respondents covering four domains: changes in self-esteem, body image, social relationships, roles, and responsibilities. This change arises because of the limitations of carrying out roles and responsibilities that have been the routine of women survivors, namely as mothers, wives, work friends, social friends, and community members. The routine eventually comes to a halt because fatigue causes the inability to start or complete activities. Fatigue also opens up some things related to self-identity and relationships with others.

A study by Heather & Campbell revealed that common post-treatment complaints lead to quality of life-related to self-concept. It is also illustrated by the results of interviews where respondents indicated how fatigue interferes with how they perceive and value themselves for no longer being able to do something like before cancer, so they complain of some dissatisfaction or humility. Furthermore, fatigue becomes the cause of them losing motivation and feeling sad, frustrated and irritable because they often run out of energy and become slow and tired. Not to mention impaired cognitive function, slowing down thought processes, causing difficulty focusing attention, and decreased memory (von Ah et al., 2013). In the end, fatigue predicts self-esteem disturbances in the respondent, and this causes the respondent to feel dissatisfied with his life (Lis

et al., 2009). It concluded by Fragoso et al. that the heavier the fatigue, the lower the self-esteem (Fragoso et al., 2009).

When individuals interact with others, the nature of their interpersonal relationships will be seen in various ways: sitting distance from each other, postures and facial expressions, frequency of looking at each other, and so on. This non-verbal communication can be assertive (Röndahl et al., 2006). Similarly, the non-verbal behavior shown by respondents during the interview, namely throwing away glances, shedding tears, bowing their heads, biting their lips, also laughing, and looking into the interviewer's eyes, is a way that triggers a request to be understood.

The third theme of the first phase of the study was about the response chosen by the respondent in facing the fatigue he felt. There were differences in each respondent's perception of interpreting cancer he suffered, which caused differences in the cancer diagnosis and all the attributes that followed. All the differences caused the respondent to undergo a different transition characterized by individual behavior in interpreting life with physical and mental fatigue.

In addition to survivors, it turns out that positive coping is also needed by the closest person who takes care of the respondent. As the person responsible for caring for survivors, caregivers often face severe challenges given the intensity of needs, signs, and symptoms after a cancer diagnosis and lengthy treatment, so they are not at risk of having a poor quality of life as well (Lapid et al., 2016). The respondents' families also demonstrated this positive coping by replacing duties and responsibilities when survivors were incapacitated or showing support by helping survivors meet basic daily needs such as bathing, cleaning themselves, providing good communication, and other forms of support.

The respondent's confession, the fourth theme that the husband displays a response that is considered not to provide support to him, is a response to a burden of caring responsibility (Vahidi et al., 2016). It must be admitted that anxiety is a normal psychological reaction of caregivers of cancer patients. One in ten couples and families caring for cancer survivors has an anxiety disorder (Din et al., 2017). A study of seventy-six caregivers in the Netherlands revealed that the source of such anxiety is fear of their unpredictable future (80%) and facing fatigue in survivors (65%) (Osse et al., 2006). Of course, this anxiety disorder in caregivers can interfere with their role when caring for sick family members. Many things affect how family members respond to the burden of "living with cancer," and it is clear that both positive and negative family responses significantly affect the survivor's quality of life.

Many factors influence the response. The biopsychosociospiritual and economic aspects of the husband or caregiver are factors outside of cancer that contribute to the depressive mood and difficulties with caring for survivors (Govina et al., 2015). About 44% of husbands or caregivers in their tenure caring for survivors show anger toward others, primarily due to their lack of knowledge about cancer and its treatment (Tanriverdi et al., 2016). The support and pressure provided by the husband and closest people will return to the survivor, having a significant effect on stress and emotionally focused coping, so it is not surprising that it is stated that the presence of caregivers and people around the survivor influences the survivor's quality of life (Kang & Suh, 2015; Sampoornam, 2015).

Survivors after a cancer diagnosis want a new normalization, shown in an attempt to adapt despite physical and psychological limitations and then manage it to regain self-confidence and control of life (Ang et al., 2016). It appears in theme five, namely the respondents' expectation to live life with cancer as well as possible.

Phase II: Development of interventions. Cancer survivor's fatigue management interventions are developed from the qualitative thematic analysis that shows that fatigue in cancer comes from multidimensional aspects. This aspect involves physical and emotional elements that have the potential to affect self-concept and quality of life. Several models or interventions from various previous studies directly related to these two aspects are used as the basis for the library in-building interventions in this study. The development of this nursing intervention to manage burnout (GPA) was also compiled based on a literature study.

The development of this intervention refers to transition theory, the theory of self-efficacy, and the results of previous studies with themes suitable for empowerment in survivors. The results of the draft GPA intervention were presented to experts through expert consultation by two experts, namely psychology experts and medical rehabilitation specialists. Expert consultation aims to obtain input and corrections from experts on the design of the GPA model, which is arranged in the form of module books and instruments used in research.

Intervention Description

Fatigue management intervention (GPA) is a nursing intervention focusing on the physical and psychological aspects of breast cancer survivors, developed by integrating the results of previous research on the experience of overcoming fatigue and supporting theories to produce more effective and efficient nursing services. GPA is given as empowerment to survivors to reduce fatigue, improve self-esteem,

GPA's focus includes improving survivors' knowledge of the signs and symptoms of fatigue in cancer and being skilled at managing that fatigue independently. Through the GPA of survivors as an object of intervention, they are given motivation and the opportunity to learn to recognize their ability to manage fatigue until they are expected to achieve an optimal quality of life eventually. The discussion, reinforcement provision, and motivation were conducted remotely (distant) by telephone for 5 (five) weeks. Intervention in the form of education to improve physical and mental well-being consists of three subjects in 1 meeting for approximately 45-60 minutes.

After consultation with clinical psychology experts, it is recommended to use a method that follows the character of Indonesian society in general, namely using the short writing method, so that the model used is to check a few small boxes that represent the feelings felt when tired. Meanwhile, from medical rehabilitation, the advice given is the selection of good and appropriate exercise for survivors who mostly go through mastectomy surgery and experience fatigue. Some categories used as restrictions are: exercise packages must meet the elements of warming up, stretching, core movement, and cooling down.

The interventions that have been developed are tested on treatment groups. Participants in this trial at the end of the study were 36 people in the intervention group and 45 people in the

control group. The average age of survivors was 43.91 years in the control group and 46.72 years in the intervention group, with variations of 6.17 years and 7.74 years. The minimum age was 32 years and a maximum of 59 years in the control group and 23 years and 59 years in the intervention group. The analysis revealed that 95% believed that the average age of survivors was between 42.05 years to 45.77 years in the control group and 44.10 to 49.34 years in the intervention group. Meanwhile, the most characteristics of the respondents were participants with cancer diagnoses, the majority less than one year before the study, 61 people (75.3%), stage II cancer with 45 people (55.4%), housewives with 50 people (61.7%), married with 62 people (76.5%). Most breast cancer surgical procedures were mastectomies in 69 people (85.2%).

Respondents experienced fatigue in the "mild" category of 43 people (45.7%), self-esteem in the "moderate" class of 71 people (87.7%), body image in the "good" category of 61 people (75.3%) and quality of life in the "high" class of 46 people (56.7%). The normality test results before the intervention were obtained, and the distribution similarity in fatigue was found in both groups. Both were normally distributed ($p>0.05$), and the variables of body image and quality of life also had similarities in data distribution where both were abnormally distributed ($p<0.05$). Meanwhile, the self-esteem variables in both groups had differences where in the control group, it was normally distributed, while in the intervention group, it was abnormally distributed (>0.05). The equivalence test on research variables was based on the average value there are three research variables whose data variance is equivalent (homogeneous) ($p>0.05$) namely fatigue, self-esteem and body image. In the control group there was an increase in fatigue by 0.09 points, a decrease in self-esteem by 0.88 points, an increase in body image by 0.17 points and an increase in quality of life by 2.2 points.

Meanwhile, in the intervention group, there was a decrease in the average fatigue score by 0.77 points, an increase in self-esteem by 0.47 points, an increase in body image by 2.64 points and an increase in quality of life by 10.01 points.

In the results, there are differences in the mean ranks in each research variable. In the second measurement, namely in the sixth week after education, the fatigue variable was seen that there was no difference in fatigue between the control and intervention groups (p 0.087>0.05). Likewise, in the body image variable, it was seen that there was also no difference in body image between the control and intervention groups (p 0.079>0.05).

Meanwhile, in the self-esteem variable, it was seen that there was a difference in scores between the two groups, where the measurement of the control group's ranking score was higher than the ranking score of the intervention group (p 0.004<0.05). Also seen in the quality of life variables there were differences in both groups where the intervention group had a higher score than the control group with (p 0.007<0.05).

Table 1. Differences in Average Fatigue, Self-Esteem, Body Image and Quality of Life Before and After Being Given a GPA (n=81)

Variable	Mean Rank Before		P*	Mean Rank After		P*
	Control	*Intervention*	value	*Control*	*Intervention*	value
Fatigue	32,5	53	0,001	37,52	46,58	0,087
Self-esteem	53,53	26,13	0,001	48,05	33.13	0,004
Body image	43,66	38,74	0,35	45,57	36,31	0,079
Quality of life	42,05	40,79	0,812	35,26	49,47	0,007

Table 2 shows the mean for the control group where there was no significant change in average rank in the second week of measurements, namely in the variables of fatigue, body image and quality of life. The fatigue variable has a p value of 0.657 (p >0.05), a body image variable with a p value of 0.069 (p >0.05) and a quality of life variable with a p value of 0.147 (p > 0.05). In contrast to the self-esteem variable, it can be seen that there is a meaningful difference in the second measurement with a p value of 0.047.

Table 2. Effect of GPA Intervention on Control Group (n=45)

		N	Mean Rank	Sum of Ranks	P* value
Fatigue	Decline	23	20,77	457	0,657
	Increased	21	24,23	533	
	Unchanged	1			
Self-esteem	Decline	25	20,24	506	0,047
	Increased	13	18,08	235	
	Unchanged	8			
Body image	Increased	26	21,11	570	0,069
	Decline	14	20,79	291	
	Unchanged	5			
Quality of life	Decline	16	24,31	389	0,147
	Increased	28	22,28	646	
	Unchanged	1			

From table 3, it can be seen that there were 31 participants (86.1%) who felt milder fatigue in the second measurement, 4 (11.1%) participants felt heavier fatigue and 1 participant did not experience a change in fatigue. The score on the second measurement, which is smaller than the first measurement score, is a sign that the fatigue score is reduced because the score on the Piper Fatigue Scale increases in size, indicating that fatigue is getting heavier.

Table 3. Effect of GPA Intervention on Intervention Group (n=36)

		n	Mean Rank	Sum of Ranks	P* value
Fatigue	Decline	31	18,73	580,5	0,0001
	Increased	4	12,38	49,5	
	Unchanged	1			
Self-esteem	Decline	10	20,15	201,5	0,241
	Increased	22	14,84	326,5	
	Unchanged	4			
Body image	Increased	17	11,85	201,5	0,003
	Decline	4	7,38	29,5	
	Unchanged	15			
Quality of life	Decline	4	9,75	39	0,0001
	Increased	31	19,06	591	
	Unchanged	1			

For self-esteem, it was seen that in the control group 25 (55.5%) participants felt self-esteem on the second measurement lower, 13 (28.8%) participants felt higher self-esteem and 8 (17.7%) participants did not experience changes in self-esteem (p 0.04 < 0.05). In the intervention group 10 people (27.7%) participants felt self-esteem in the second measurement lower, 22 (61.2%) participants felt higher self-esteem and 4 (11.1%) participants did not experience changes in self-esteem (p 0.24 > 0.05).

Meanwhile, in the body image, in the control group there were 26 (57.8%) participants who felt an increase in body image, 14 (31.1%) participants felt a decrease in body image and 5 participants did not experience changes in body image (p 0.069< 0.05). In the intervention group 17 people (47.2%) participants felt body image in the second measurement higher, 4 (11.2%) participants felt body image in the second measurement lower and 15 participants did not experience changes in body image (p 0.003 > 0.05).

In the control group as many as 16 (35.5%) participants felt the quality of life in the second measurement lower, 28 (62.2%) participants felt a higher quality of life and 1 (2.2%) participants did not experience a change in quality of life (p 0.147> 0.05). In the intervention group of 4 people (11.1%) participants felt the quality of life in the second measurement lower, 31 (86.1%) participants felt a higher quality of life and 1 participant did not experience a change in quality of life (p 0.0001< 0.05).

It can be interpreted that GPA can produce changes to fatigue, body image and quality of life in the intervention group. It can be seen that 86.2% of respondents experienced a decrease in fatigue, 61.2% of respondents experienced an increase in self-esteem, 47.3% of respondents experienced an improvement in body image and 86.2% of respondents experienced an improvement in quality of life.

The test results showed that the application of GPA has an effect on fatigue in breast cancer survivors. This conclusion is derived from the univariate and bivariate analysis that has been

presented in the previous section. The results of data analysis comparing scores between groups showed that in the first measurement before the GPA, there was a significant difference in fatigue between the control group and the intervention group, while in the second measurement after the GPA, there was no difference in fatigue between the control group and the experiment (table 1).

Then using the results of the next analysis, it was seen that in the control group the change in fatigue from the first measurement to the second measurement was not statistically meaningful (p 0.657>0.05) (table 2). In contrast, in the intervention group given GPA, there was a change in fatigue, as evidenced by data showing that there were 31 participants who experienced a decrease in fatigue, 4 participants experienced an increase in fatigue and 1 participant did not experience a change (p 0.001<0.05) (table 3). This suggests that GPA helps reduce fatigue in survivors and this fits the hypothesis presented at the beginning of the study.

Lorig and Holman (2003) have suggested that in the context of chronic diseases, the purpose of supporting self-management is to enable patients to perform three sets of tasks, namely: (1) medical management of the disease (e.g. taking medications, following specific medications and diets); (2) carrying out roles and activities that are normally carried out before illness; and (3) managing the emotional impact of the disease on them. In the case of cancer, this goal may differ from other disease groups because the problem for people with cancer may be more about managing the long-term effects of the disease and the treatment and promotion of health, than the management of active diseases (Wyatt & Hulbert-Williams, 2015).

Some participants experienced varying reductions in fatigue where there was also an increase in fatigue. Huang revealed that fatigue, although very annoying and causing many limitations, can occur at any time and does not have a consistent pattern of occurring all the time, since there are various other factors that can influence its occurrence and frequency, such as sleep patterns and adequacy, the presence or absence of depressive events and individual functional performance (Huang et al., 2019).

The Effect of GPA on Self-Esteem

To ascertain the effect of GPA, a paired difference test has been carried out that assesses the difference between the score after the intervention and the score before the intervention. From tables 2 and 3, it was seen that after the intervention the GPA saw an increase in self-esteem in 22 participants (61.2%) of the intervention group, compared to 13 participants (28.9%) in the control group, although in the intervention group these results were statistically slightly meaningless (p 0.24>0.05). However, we also saw that there were differences in self-esteem in the two groups where the group given GPA experienced an increase in post score against pre-intervention and the group that was not given GPA experienced a decrease in post score against pre-intervention (p 0.004<0.05) (table 1) and the results of descriptive analysis of the results showed that there was an increase in the average score in the intervention group that got a GPA (table 4.9).

Providing intervention by phone at least 3 times in 5 weeks to participants without meeting in person is a different challenge that is currently feasible considering that so many studies show

some of the advantages of this method. A review of 13 studies conducted without meeting in person resulted in a positive influence on survivors' perceived symptoms.

For statistically meaningless results in post-score testing against pre, this may be due to too short a follow-up period or because the number of samples is too small (Velthuis et al., 2010). These results are actually similar to Cieslak's study on post mastectomy survivors which stated that those diagnosed with breast cancer for less than five years did not experience any change in self-esteem (Cieślak & Golusiński, 2018).

The results of an statistically meaningless analysis on one of the test methods on this variable do not necessarily dispel the assumption that this intervention is feasible to be included in the cancer survivor care system because the other test results show an increase in scores with good significance values so as to help researchers to state that GPA can improve the self-esteem of breast cancer survivors. This suggests that statistically it may not be meaningful, but empirically in the field these interventions can lead to change. To improve to be meaningful, it may be possible to have a longer intervention period with a larger number of samples.

The Effect of GPA on Body Image

One of the score analyses carried out, namely in the analysis of unpaired data (table 1) showed that the results on the measurements after being given a GPA showed no difference between the two research groups. Meanwhile, in different tests, namely descriptive tests, it was seen that there was an increase in body image in the intervention group. This data was supported by other data analysis, namely paired data tests, where in the group conducted GPA in the intervention group there were 17 (47.3%) participants who stated that there was an increase in body image, and 15 (41.6%) participants stated that there was no change in body image ($p = 0.003$). When compared to the control group with 24 (57.8%) participants who experienced an improvement in average body image, it seemed that the results of the control group were much better. However the significant value in the control group was 0.069 which indicates that this result was not statistically significant. This suggests that GPA had an influence on intervention group participants because the results obtained were more meaningful than those of the control group.

Many studies have raised the theme of body image as an important aspect, and these studies state that sexuality is one of the problems faced by breast cancer survivors (Farah et al., 2014). This problem must be resolved immediately because it can worsen the body image of survivors because sexuality is often juxtaposed with body image in establishing a woman's identity. Women must be empowered and their self-efficacy in self-care must be improved so that they have positive coping (Arıkan et al., 2020). Fatigue Management Interventions carried out in the form of calm yoga are able to provide the effect of harmony, calmness, mood changes and body image improvement if done in a structured and consistent manner.

If the survivor already has a good body image then her self-efficacy will also increase, and vice versa (McClelland et al., 2015) and this is good for the continuity of self-report-based nursing interventions, which are carried out independently, far from the physical reach of the nurse. Nurses

can take survivors to comply with the recommendations to start exercising and complete those activities over and over again.

The Effect of GPA on Quality of Life

In the current study specifically on the quality of life variables, the results of the unpaired data test between the two groups in the first measurement showed that there was no difference between the control group and the intervention group, and after the GPA there was a difference in quality of life between the two. This shows that the treatment given was effective on the quality of life of survivors, because in the intervention group the mean rank value was higher, which was 49.47 compared to 35.26 in the control group (p 0.007<0.05) (table 1).

The descriptive statistical results also supported by showing an increase in higher quality of life scores in the intervention group of 10.01 points. Similarly, the results of the paired test confirmed that after the intervention there were 86.1% (31 people) who experienced an increase in quality of life score compared to 11.1% (4 people) who experienced a decrease in quality of life and 2.8% (1 person) who did not experience a change (p 0.001) (table 3). These results show that the results of the study are in accordance with the research hypothesis, namely GPA is effective against the quality of life of breast cancer survivors.

The findings are in line with a study by Phillips of breast cancer survivors, which measured quality of life by providing a 6-month exercise intervention. He states that exercise can improve the quality of life through indirect influences on self-efficacy (Phillips & McAuley, 2014). Meanwhile, a study by Adams et al. (2018) of cancer survivors during 12 weeks of HIIT (High Intensity Interval Training) exercise resulted in conclusions about the benefits of exercise on quality of life through improved heart and blood vessel health. The difference between this study and this study is that in addition to the implementation period, it is also in the hypothesis flow where this study does not measure self-efficiency or measure physical vital signs to achieve research outputs in the form of quality of life. Meanwhile, the similarity is that they both use the remote method (distant), namely the telephone as a medium to provide motivation, reinforcement and discussion and use exercise to achieve the quality of life of the participants.

This is in accordance with the results of phase I research on theme 2, "Fatigue changes everything", where disappointment and dissatisfaction stem from the survivor's perception of her inability to perform the pinned role of a wife, a mother, a woman. These inadequacies include absenteeism in serving the husband sexually, loss of intimacy, inability to be independent in activities so that they have to depend on others, missing opportunities to help children with homework, study and so on.

The analysis showed the results of an analysis of the factors considered to be a role in this study consisting of age, years since diagnosis, marital status, level of education, stage of illness, type of work and type of surgery and its relationship to fatigue, self-esteem, body image and quality of life.

The correlation analysis carried out on these factors aims to determine the status of their relationship with fatigue, self-esteem, body image and quality of life (Kurniawan, 2016). Using

Kendall's analysis, it was seen that none of these factors had a significantly smaller value than p 0.05 although there were two factors with a strong correlation coefficient value, namely the level of education on body image and the type of surgery on quality of life. About the existence of differences in results this is certainly due to differences in measurement instruments, analysis methods and demographic characteristics that differ from one another.

CONCLUSION

Based on qualitative studies on the experiences of breast cancer survivors in managing fatigue identified 5 themes covered in the picture of fatigue, self-esteem and quality of life of breast cancer survivors The establishment of fatigue management interventions for breast cancer survivors in managing fatigue problems for breast cancer survivors. Identified the effectiveness of fatigue management interventions for breast cancer survivors in managing fatigue problems. Identified a variable relationship that is considered to be a role with fatigue. There are no factors in the group that are considered to be role variables that have correlations with dependent variables and interfere with the influence of GPA application on the validity of the study.

For optimal health achievement after getting a cancer diagnosis, oncology nurses should consider mentoring survivors using this GPA intervention so that during the transition period breast cancer survivors achieve healthy physical and psychological health. Then the hospital can provide a policy to integrate this intervention into routine nursing procedures for breast cancer survivors. Work handbooks in the form of a collection of modules for nurses and workbooks for survivors and videos have been prepared through this study in the hope that this intervention can be applied. Furthermore, the hospital management can assign S1 nurses with a Ners background with work experience caring for cancer survivors for at least 1 year in carrying out this intervention because this intervention requires skilled nurses, needs mastery and adequate competence to implement this intervention. Last but not least, advocacy to the Director General of YanKes and the Director General of Disease Prevention and Control (P2P) of the Indonesian Ministry of Health so that this fatigue management intervention can be an alternative intervention in palliative care services.

For further research, the caregiver is concerned about the involvement of families (caregivers) to participate in supporting the empowerment process, namely by using the caregiver's phone number as a backup phone number so that if participants cannot be contacted, the caregiver can be someone who is asked for help to strengthen participants. Also this penelitian may be further continued by using a random sampling method that will bring the results closer to the generalization of the conclusion. Physical ability greatly influences the implementation of a given GPA, therefore for further research on fatigue management the study participants need to be grouped based on the same level of fatigue or level of physical activity. It is necessary to conduct further research to identify continuity after completing a GPA for 5 weeks, because maintaining a state of health can further increase life satisfaction.

In terms of scientific development of nursing institutions, Indonesian nursing higher education institutions should develop empowerment behavioral competencies towards patients /

survivors such as: caring, communication skills, problem-solving skills and critical thinking to nursing students they educate in accordance with the nursing standards of professional organizations. Also, the results of this study should be one of the standards in providing interventions to cancer survivors and can be used as evidence in other groups of survivors.

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